

Collet Flange Mandrels for Balancing Machines

15.1



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Issue 07/04 · We reserve the right to make technical modifications.



Vertical balancing machine integrated into an assembly line. Equipped with a RINGSPANN Collet Flange Mandrel ①, a Cylinder ② and an Axial Backstop ③.

Collet Flange Mandrels for Balancing Machines for hand- or power-clamping



Advantages

- High concentricity up to 0,01 mm
- High repeat precision of balancing results (≤ 2 gmm/kg)
- Rapid changeover to other clamping diameters
- Pull-back action during clamping; axial backstops adapted to workpiece geometry can be manufactured by the customer or on request by RINGSPANN
- Large expansion range of collets from:
0,6 mm for the size 6
1,2 mm for the sizes 7 – 27
2,4 mm for the sizes 32 - 54*
- Fine size gradations to cover all clamping diameters between 11,9 and 132 mm, with 10 flange mandrel bodies and 83 collets
- Clamping diameters up to 112 mm available from stock
- Collets secured against rotation
- Guided clamping bolts
- Rubberized collets available on request

Characteristics

Precise clamping of workpiece on balancing machines.

For hand- or power-clamping.

Consist of flange mandrel body and collet with clamping bolt.

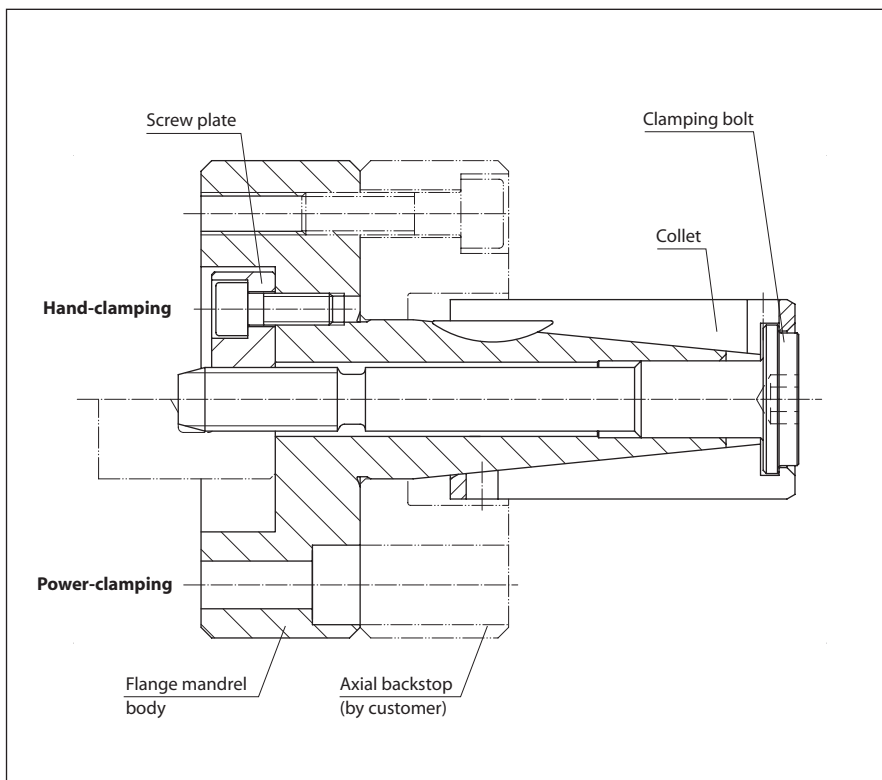
The flange mandrel body requires a screw plate for hand-clamping but not for power-clamping.

Technical Data and Dimensions

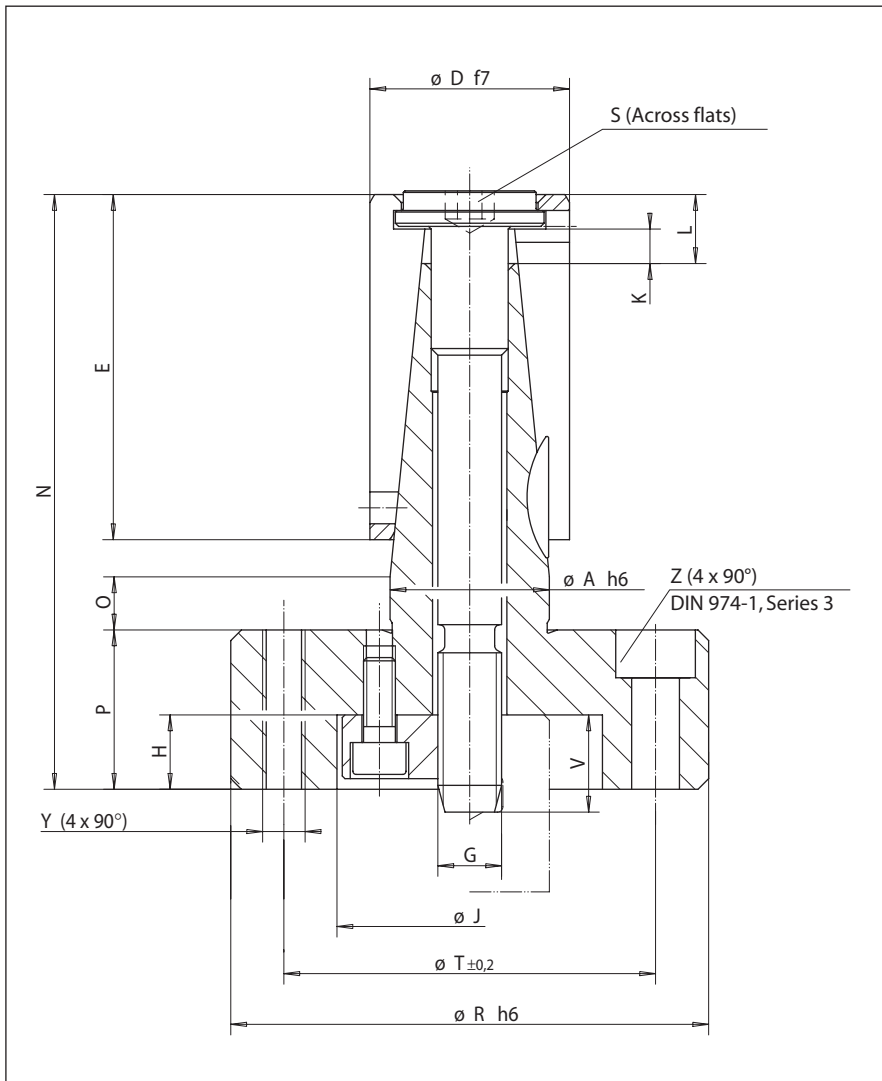
See pages 5 and 6.

Accessories

- Cylinder for spring actuated power-clamping (see page 6)
- Intermediate flange for hand-clamping (see page 8)
- * Except spring actuated power-clamping where expansion range $\leq 1,2$ mm



Collet Flange Mandrels for Balancing Machines for hand- or power-clamping



Workpiece Clamping

The clamping surface of the workpiece must not be positioned completely within the area of dimension "L". The larger portion of the clamping surface should be positioned over the tapered section of the flange mandrel body.

The workpiece can either be positioned directly against the flange mandrel body or against a special axial backstop designed to fit the workpiece geometry. Axial backstop can be manufactured by customer or on request by RINGSPANN.

Example for Ordering

Collet flange mandrel for hand-clamping, clamping diameter 17 mm:

1 Flange mandrel body
with screw plate

Size: MDFW 7
Art. no.: 3169.007.005

1 Collet with clamping bolt

Size: MBBW 7
Art. no.: 0169.007.006.016,70

Technical Data and Dimensions

Flange mandrel body			Collet with clamp- ing bolt (s. page 5) size	Clamping range from- to mm	Trans- missible torque		At clamping bolt required		A	E	G	H	J	K	L	N	P	Q	R	S	T	V	Y	Z
Size	with screw plate art.-no. 3169.	without screw plate art.-no. 3169.			M ¹⁾	M ²⁾	Linear force F N	Tightening torque M Nm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
MDFW 6	007.007	007.009	MBBW 6	11,90 - 15,00	11	18	5000	5	11	23	M5	9	37	3	7,5	49	20	5	70	3	50	9	M8	8
MDFW 7	007.005	007.010	MBBW 7	14,70 - 20,90	14	22	5000	5	14	35	M5	9	37	6	11	67	20	5	70	3	50	19	M8	8
MDFW 12	012.007	012.009	MBBW 12	20,70 - 27,90	49	73	12000	20	20	45	M8	9	37	6	12	81	20	10	70	5	50	17	M8	8
MDFW 18	018.010	018.015	MBBW 18	27,70 - 32,80	65	97	12000	24	26	45	M8	9	37	6	12	80	20	10	70	5	50	20	M8	8
MDFW 19	018.011	018.016	MBBW 19	32,60 - 42,80	129	193	20000	51	30	65	M12	14	50	6	13	112	30	10	90	8	70	14	M8	8
MDFW 27	027.005	027.008	MBBW 27	42,60 - 51,80	168	251	20000	62	39	65	M12	14	50	6	13	112	30	10	90	8	70	14	M8	8
MDFW 32	032.010	032.013	MBBW 32	51,60 - 64,00	304	455	30000	113	49	90	M16	19	60	12	22	147	30	15	120	12	95	18	M10	10
MDFW 43	043.010	043.015	MBBW 43	63,60 - 72,00	373	558	30000	134	60	90	M16	19	60	12	22	147	30	15	140	12	115	18	M12	12
MDFW 44	043.011	043.016	MBBW 44	71,60 - 82,00	422	632	30000	140	66	120	M16	19	60	12	22	177	30	15	140	12	115	18	M12	12
MDFW 54	054.007	054.011	MBBW 54	81,60 - 132,00	481	720	30000	159	77	120	M16	19	60	12	22	177	30	15	140	12	115	18	M12	12

¹⁾ with axial backstop

²⁾ without axial backstop

Collet Flange Mandrels for Balancing Machines for hand- or power-clamping

Art.-no. collets with clamping bolt (not for collet flange mandrels equipped with a cylinder)

Size	Clamping range D_{f7} for collets with clamping bolt from - to mm	Art.-no. 0169.
MBBW 6	11,90 – 12,50	006.003.011,90
	12,40 – 13,00	006.003.012,40
	12,90 – 13,50	006.003.012,90
	13,40 – 14,00	006.003.013,40
	13,90 – 14,50	006.003.012,90
	14,40 – 15,00	006.003.014,40
MBBW 7	14,70 – 15,90	007.006.014,70
	15,70 – 16,90	007.006.015,70
	16,70 – 17,90	007.006.016,70
	17,70 – 18,90	007.006.017,70
	18,70 – 19,90	007.006.018,70
	19,70 – 20,90	007.006.019,70
MBBW 12	20,70 – 21,90	012.065.020,70
	21,70 – 22,90	012.065.021,70
	22,70 – 23,90	012.065.022,70
	23,70 – 24,90	012.065.023,70
	24,70 – 25,90	012.065.024,70
	25,70 – 26,90	012.065.025,70
MBBW 18	26,70 – 27,90	012.065.026,70
	27,70 – 28,90	018.079.027,70
	28,70 – 29,90	018.079.028,70
	29,70 – 30,90	018.079.029,70
	30,60 – 31,80	018.079.030,60
	31,60 – 32,80	018.079.031,60
MBBW 19	32,60 – 33,80	018.080.032,60
	33,60 – 34,80	018.080.033,60
	34,60 – 35,80	018.080.034,60
	35,60 – 36,80	018.080.035,60
	36,60 – 37,80	018.080.036,60
	37,60 – 38,80	018.080.037,60
	38,60 – 39,80	018.080.038,60
	39,60 – 40,80	018.080.039,60
	40,60 – 41,80	018.080.040,60
	41,60 – 42,80	018.080.041,60
MBBW 27	42,60 – 43,80	027.008.042,60
	43,60 – 44,80	027.008.043,60
	44,60 – 45,80	027.008.044,60
	45,60 – 46,80	027.008.045,60
	46,60 – 47,80	027.008.046,60
	47,60 – 48,80	027.008.047,60
	48,60 – 49,80	027.008.048,60
	49,60 – 50,80	027.008.049,60
	50,60 – 51,80	027.008.050,60

Size	Clamping range D_{f7} for collets with clamping bolt from - to mm	Art.-no. 0169.	
MBBW 32	51,60 – 54,00	032.012.051,60	
	53,60 – 56,00	032.012.053,60	
	55,60 – 58,00	032.012.055,60	
	57,60 – 60,00	032.012.057,60	
	59,60 – 62,00	032.012.059,60	
	61,60 – 64,00	032.012.061,60	
	MBBW 43	63,60 – 66,00	043.007.063,60
		65,60 – 68,00	043.007.065,60
67,60 – 70,00		043.007.067,60	
69,60 – 72,00		043.007.069,60	
MBBW 44	71,60 – 74,00	043.008.071,60	
	73,60 – 76,00	043.008.073,60	
	75,60 – 78,00	043.008.075,60	
	77,60 – 80,00	043.008.077,60	
	79,60 – 82,00	043.008.079,60	

Size	Clamping range D_{f7} for collets with clamping bolt from - to mm	Art.-no. 0169.
MBBW 54	81,60 – 84,00	054.010.081,60
	83,60 – 86,00	054.010.083,60
	85,60 – 88,00	054.010.085,60
	87,60 – 90,00	054.010.087,60
	89,60 – 92,00	054.010.089,60
	91,60 – 94,00	054.010.091,60
	93,60 – 96,00	054.010.093,60
	95,60 – 98,00	054.010.095,60
	97,60 – 100,00	054.010.097,60
	99,60 – 102,00	054.010.099,60
	101,60 – 104,00	054.011.101,60
	103,60 – 106,00	054.011.103,60
	105,60 – 108,00	054.011.105,60
	107,60 – 110,00	054.011.107,60
	109,60 – 112,00	054.011.109,60
	111,60 – 114,00	054.012.111,60
	113,60 – 116,00	054.012.113,60
	115,60 – 118,00	054.012.115,60
	117,60 – 120,00	054.012.117,60
119,60 – 122,00	054.012.119,60	
121,60 – 124,00	054.013.121,60	
123,60 – 126,00	054.013.123,60	
125,60 – 128,00	054.013.125,60	
127,60 – 130,00	054.013.127,60	
129,60 – 132,00	054.013.129,60	

Cylinder for Spring actuated Power-Clamping for collet flange mandrels for balancing machines

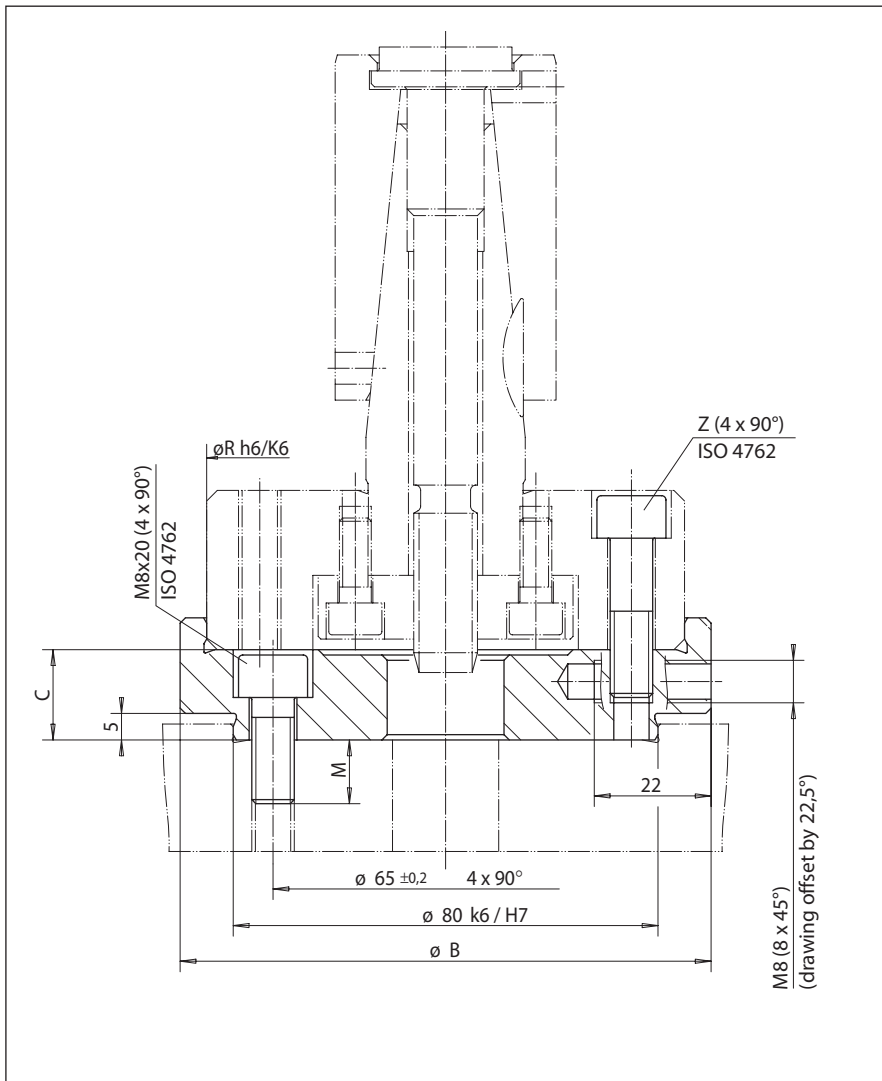
Art.-no. collets with clamping bolt for collet flange mandrels equipped with a cylinder

Size	Clamping range D_{f7} for collets with clamping bolt from - to mm	Art.-no. 0169.
MBBW 6	11,90 - 12,50	006.003.011,90
	12,40 - 13,00	006.003.012,40
	12,90 - 13,50	006.003.012,90
	13,40 - 14,00	006.003.013,40
	13,90 - 14,50	006.003.013,90
	14,40 - 15,00	006.003.014,40
MBBW 7	14,70 - 15,90	007.006.014,70
	15,70 - 16,90	007.006.015,70
	16,70 - 17,90	007.006.016,70
	17,70 - 18,90	007.006.017,70
	18,70 - 19,90	007.006.018,70
	19,70 - 20,90	007.006.019,70
MBBW 12	20,70 - 21,90	012.065.020,70
	21,70 - 22,90	012.065.021,70
	22,70 - 23,90	012.065.022,70
	23,70 - 24,90	012.065.023,70
	24,70 - 25,90	012.065.024,70
	25,70 - 26,90	012.065.025,70
MBBW 18	26,70 - 27,90	012.065.026,70
	27,70 - 28,90	018.079.027,70
	28,70 - 29,90	018.079.028,70
	29,70 - 30,90	018.079.029,70
	30,60 - 31,80	018.079.030,60
	31,60 - 32,80	018.079.031,60
MBBW 19	32,60 - 33,80	018.080.032,60
	33,60 - 34,80	018.080.033,60
	34,60 - 35,80	018.080.034,60
	35,60 - 36,80	018.080.035,60
	36,60 - 37,80	018.080.036,60
	37,60 - 38,80	018.080.037,60
MBBW 27	38,60 - 39,80	018.080.038,60
	39,60 - 40,80	018.080.039,60
	40,60 - 41,80	018.080.040,60
	41,60 - 42,80	018.080.041,60
	42,60 - 43,80	027.008.042,60
	43,60 - 44,80	027.008.043,60
MBBW 27	44,60 - 45,80	027.008.044,60
	45,60 - 46,80	027.008.045,60
	46,60 - 47,80	027.008.046,60
	47,60 - 48,80	027.008.047,60
	48,60 - 49,80	027.008.048,60
	49,60 - 50,80	027.008.049,60
50,60 - 51,80	027.008.050,60	

Size	Clamping range D_{f7} for collets with clamping bolt from - to mm	Art.-no.	
MBBW 32	51,60 - 52,80	0169.032.012.051,60	
	52,80 - 54,00	3169.032.020.052,80	
	53,60 - 54,80	0169.032.012.053,60	
	54,80 - 56,00	3169.032.020.054,80	
	55,60 - 56,80	0169.032.012.055,60	
	56,80 - 58,00	3169.032.020.056,80	
	57,60 - 58,80	0169.032.012.057,60	
	58,80 - 60,00	3169.032.020.058,80	
	59,60 - 60,80	0169.032.012.059,60	
	60,80 - 62,00	3169.032.020.060,80	
	61,60 - 62,80	0169.032.012.061,60	
	62,80 - 64,00	3169.032.020.062,80	
MBBW 43	63,60 - 64,80	0169.043.007.063,60	
	64,80 - 66,00	3169.043.013.064,80	
	65,60 - 66,80	0169.043.007.065,60	
	66,80 - 68,00	3169.043.013.066,80	
	67,60 - 68,80	0169.043.007.067,60	
	68,80 - 70,00	3169.043.013.068,80	
	69,60 - 70,80	0169.043.007.069,60	
	70,80 - 72,00	3169.043.013.070,80	
	MBBW 44	71,60 - 72,80	0169.043.008.071,60
		72,80 - 74,00	3169.043.014.072,80
		73,60 - 74,80	0169.043.008.073,60
		74,80 - 76,00	3169.043.014.074,80
75,60 - 76,80		0169.043.008.075,60	
76,80 - 78,00		3169.043.014.076,80	
77,60 - 78,80		0169.043.008.077,60	
78,80 - 80,00		3169.043.014.078,80	
79,60 - 80,80		0169.043.008.079,60	
80,80 - 82,00		3169.043.014.080,80	

Size	Clamping range D_{f7} for collets with clamping bolt from - to mm	Art.-no.
MBBW 54	81,60 - 82,80	0169.054.010.081,60
	82,80 - 84,00	3169.054.018.082,80
	83,60 - 84,80	0169.054.010.083,60
	84,80 - 86,00	3169.054.018.084,80
	85,60 - 86,80	0169.054.010.085,60
	86,80 - 88,00	3169.054.018.086,80
	87,60 - 88,80	0169.054.010.087,60
	88,80 - 90,00	3169.054.018.088,80
	89,60 - 90,80	0169.054.010.089,60
	90,80 - 92,00	3169.054.018.090,80
	91,60 - 92,80	0169.054.010.091,60
	92,80 - 94,00	3169.054.018.092,80
	93,60 - 94,80	0169.054.010.093,60
	94,80 - 96,00	3169.054.018.094,80
	95,60 - 96,80	0169.054.010.095,60
	96,80 - 98,00	3169.054.018.096,80
	97,60 - 98,80	0169.054.010.097,60
	98,80 - 100,00	3169.054.018.098,80
	99,60 - 100,80	0169.054.010.099,60
	100,80 - 102,00	3169.054.018.100,80
	101,60 - 102,80	0169.054.011.101,60
	102,80 - 104,00	3169.054.019.102,80
	103,60 - 104,80	0169.054.011.103,60
	104,80 - 106,00	3169.054.019.104,80
	105,60 - 106,80	0169.054.011.105,60
	106,80 - 108,00	3169.054.019.106,80
	107,60 - 108,80	0169.054.011.107,60
	108,80 - 110,00	3169.054.019.108,80
	109,60 - 110,80	0169.054.011.109,60
	110,80 - 112,00	3169.054.019.110,80
	111,60 - 112,80	0169.054.012.111,60
	112,80 - 114,00	3169.054.020.112,80
	113,60 - 114,80	0169.054.012.113,60
	114,80 - 116,00	3169.054.020.114,80
	115,60 - 116,80	0169.054.012.115,60
	116,80 - 118,00	3169.054.020.116,80
117,60 - 118,80	0169.054.012.117,60	
118,80 - 120,00	3169.054.020.118,80	
119,60 - 120,80	0169.054.012.119,60	
120,80 - 122,00	3169.054.020.120,80	
121,60 - 122,80	0169.054.013.121,60	
122,80 - 124,00	3169.054.021.122,80	
123,60 - 124,80	0169.054.013.123,60	
124,80 - 126,00	3169.054.021.124,80	
125,60 - 126,80	0169.054.013.125,60	
126,80 - 128,00	3169.054.021.126,80	
127,60 - 128,80	0169.054.013.127,60	
128,80 - 130,00	3169.054.021.128,80	
129,60 - 130,80	0169.054.013.129,60	
130,80 - 132,00	3169.054.021.130,80	

Intermediate Flange for Hand-Clamping for collet flange mandrels for balancing machines



Characteristics

The intermediate flange has 8 radial threaded bores M8 for balancing.

The shown intermediate flanges are available from stock.

Intermediate flanges with other dimensions are available on request.

Technical Data and Dimensions

Intermediate flange		Collet with clamping bolt (s. page 5) Size	Transmissible torque		At clamping bolt required		B mm	C mm	M mm	R mm	Z
for size	art.-no. 3109.		M ¹⁾ Nm	M ²⁾ Nm	Linear force F N	Tighten. torque M Nm					
MDFW 6	084.000	MBBW 6	11	18	5000	5	84	17	12	70	M8x20
MDFW 7	084.000	MBBW 7	14	22	5000	5	84	17	12	70	M8x20
MDFW 12	084.000	MBBW 12	49	73	12000	20	84	17	12	70	M8x20
MDFW 18	084.000	MBBW 18	65	97	12000	24	84	17	12	70	M8x20
MDFW 19	100.003	MBBW 19	129	193	20000	51	100	17	12	90	M8x30
MDFW 27	100.003	MBBW 27	168	251	20000	62	100	17	12	90	M8x30
MDFW 32	130.003	MBBW 32	304	455	30000	113	130	23	10	120	M10x30
MDFW 43	150.004	MBBW 43	373	558	30000	134	150	25	10	140	M12x30
MDFW 44	150.004	MBBW 44	422	632	30000	140	150	25	10	140	M12x30
MDFW 54	150.004	MBBW 54	481	720	30000	159	150	25	10	140	M12x30

¹⁾ with axial backstop

²⁾ without axial backstop

Example for Ordering

Collet flange mandrel with intermediate flange, clamping diameter 17 mm:

1 Flange mandrel body with screw plate
Size: MDFW 7 (see page 4)
Art.-no.: 3169.007.005

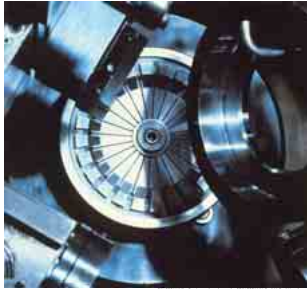
1 Intermediate flange
For size: MDFW 7
Art.-no.: 3109.084.000


1 Collet with clamping bolt
Size: MBBW 7 (see page 5)
Art.-no.: 0169.007.006.016,70

Further catalogues for RINGSPANN Precision Clamping Fixtures

RINGSPANN®
Workholding Technology

Precision Clamping Systems 10





RINGSPANN®
Workholding Technology

Precision Clamping Tools for Design and Self Assembly 14





RINGSPANN®
Workholding Technology

Collet Mandrels 15





RINGSPANN®
Workholding Technology


Hydraulic Expanding Clamping Tools 16






RINGSPANN®
Workholding Technology

Diaphragm Chucks 17





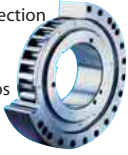
We will be happy to send you the catalogues of your choice.



Freewheels

Backstops

Automatic protection against reverse running of conveyor belts, elevators, pumps and fans.



Catalogue 88

Indexing Freewheels

For gradual feed of materials.



Catalogue 80

Overrunning Freewheels

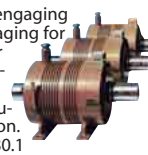
Automatic engaging and disengaging of drives.



Catalogue 80

Housing Freewheels

Automatic engaging and disengaging for multi-motor drives for installations with continuous operation.



Catalogue 80.1

Freewheel Elements

Cage Freewheels, Sprag Sets and Freewheel Chains.



Catalogue 89

Brakes

Industrial Disc Brakes

Manual Activated – Manual Release.



Catalogue 46

Industrial Disc Brakes

Spring Activated – Pneumatically, Hydraulically, Electromagnetically or Manual Release.



Catalogue 46

Industrial Disc Brakes

Pneumatically Activated – Spring Release.



Catalogue 46

Industrial Disc Brakes

Hydraulically Activated – Spring Release.



Catalogue 46

Fail-Safe Clamping Units

For secure and precise positioning of piston rods.



Catalogue 32

Torque and Force Limiters

Torque Limiters with Screw Face

Reliable overload protection for tough operating conditions.



Catalogue 45

Torque Limiters with Rollers

With double or single Roller. Through ratcheting or disengaging, also for 360° synchronous running.



Catalogue 45

Torque Limiters with Spherical Rollers

Reliable overload protection with maximum response accuracy. Also backlash free.



Catalogue 45

Torque Limiters with Friction Linings

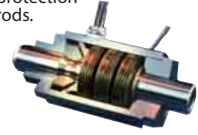
RIMOSTAT Torque Limiter for constant torque. Belleville Spring Torque Limiter for simple release.



Catalogue 45

Force Limiters

Reliable axial overload protection in piston rods.



Catalogue 49

Couplings

Flexible Couplings

Large, allowed radial and angular misalignments. Minimum resiliency.



Catalogue 44

Flange-Couplings

Rigid, easily removable shaft coupling with no clearance cone clamping elements.



E04.020

HELICAL-Flexures Shaft Couplings

Design to meet requirements for specific applications. Connecting components can be integrated to save space.



Catalogue 43

HELICAL-Flexures Spring Elements

Single Spring element with maximum resistance to wear.



Catalogue 43

Clamping Coupling

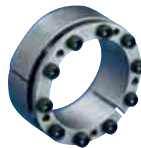
For the automatic coupling of rolls. Fast, safe and free from slipping connection.



Shaft-Hub-Connection

Cone Clamping Elements

For shaft-hub connections. High torques with small dimensions.



Catalogue 31

Two-part Shrink Discs

External clamping connection. Advantages: Simple, secure mounting even without torque wrench.



Catalogue 31.1

Three-part Shrink Discs

External clamping connection for the fastening of hollow shafts on solid shafts



Catalogue 31

Star and Clamping Discs

Ideal for shaft-hub-connection for frequent release.



Catalogue 30

Star Spring Washers

Axial spring elements for preloading of ball bearings.



Catalogue 20

Precision Clamping Fixtures

Standard Parts for Clamping Fixtures

The RINGSPANN-System for the manufacture of your own precision clamping fixtures.



Catalogue 14

Standard Clamping Fixtures

Standard programme in high precision, ready manufactured chucks and mandrels.



Special Clamping Fixtures

Custom made solutions for specific clamping problems.



Collet Mandrels

Universal, cost effective standard series. Fast collet change to other clamping diameters.



Catalogue 15

Hydraulic Expanding Clamping Tools

Mandrels and chucks with high concentricity. Clamping several workpieces in one process possible.



Catalogue 16

